



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,805	01/30/2004	Richard Santerre	9-2993-513US	3129
32292	7590	10/12/2005	EXAMINER	
OGILVY RENAULT LLP (PWC) 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A 2Y3 CANADA			PANG, ROGER L	
			ART UNIT	PAPER NUMBER
			3681	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/766,805

Applicant(s)

SANTERRE, RICHARD

Examiner

Roger L. Pang

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9-8-05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following action is in response to communications filed for application 10/766,805 on September 8, 2005.

Drawings

The drawings were received on September 8, 2005. These drawings are approved.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claims 1, 6 and 13, applicant is simultaneously claiming two separate transmission configurations. If applicant were to claim "a gear set arranged in a configuration depending on rotational direction of the shaft," this problem would be overcome.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rusu in view of Halliday. Rusu teaches a method for obtaining rotational power from a driving shaft (Fig. 1) to

Art Unit: 3681

drive a pump 20 of an aircraft system, comprising: providing a gear set 16 for transferring rotational power from the driving shaft to the driven shaft. Rusu lacks the specific teaching of said pump being a unidirectional pump. Applicant has admitted that “PCU pumps are conventionally unidirectional” in paragraph [0003] of the specification. Rusu also lacks the specific teachings of the details of the transmission 16. Halliday teaches a first configuration comprising a driving shaft 22, on which a first bevel gear is mounted 40, wherein said first bevel gear is meshed with a third bevel gear 36 that is attached to the end of a driven shaft 37; a second configuration comprising a driving shaft 32, on which a second bevel gear is mounted 35, wherein said second bevel gear is meshed with a third bevel gear 36 that is attached to the end of a driven shaft 37; and wherein the driven shaft is only driven in one direction, regardless of which configuration is used. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Rusu to employ a gear set of a preferred configuration (depending on direction of input) in view of Halliday in order to provide a pump actuating means, while saving lateral space within the aircraft structure. For the remaining limitations, please refer to the Figure of Halliday.

Response to Arguments

Applicant has argued the following points:

- 1) Rusu does not mention any issue relating to change in rotational direction of the turbine.
- 2) There is a lack of motivation to combine Halliday to provide inventor’s desired result.
- 3) Halliday is an invention in a different technical field.
- 4) Rusu and Halliday do not teach all of the claim limitations.

First, on pages 1-2 of the specification, applicant has already disclosed the following as prior art:

- PCU pumps are operatively connected to propeller shafts
- PCU pumps are unidirectional
- selective use of the pumps is determined in accordance to the propeller shafts.
- in order to rotate propellers in a specific direction, a propeller gearbox is coupled to the propeller shaft and to the engine.

With regard to Issue 1:

Rusu does not mention the issue of a change in rotational direction of the turbine driving shaft, however, applicant's current invention also does not teach of a multidirectional driving shaft either. Applicant is trying to claim that a gearbox will have a desired directional output for the PCU pump, regardless of the direction of the driving shaft direction.

Rusu teaches the turbine driving shaft (Fig. 1) driving in a direction, and a gearing 16 that will drive the propeller 14 and the propeller pitch control pump 20 (Col. 4, lines 24-27). Since pump 20 is unidirectional, the gearbox must provide the desired directional output. This is where the teaching of Halliday is incorporated.

The concept of designing a transmission to provide a desired output direction is not new in the art. This is what applicant has expressed as the patentable limitation. Halliday teaches of two shafts 22/32 which are rotated in opposite directions. Both of them are connected to an output gear that rotates in one single direction (Col. 4, lines 1-4). Halliday teaches a concept that two different transmission configurations can provide the same desired output direction.

Therefore, if the driving shaft is turned in the same direction as shaft 32, one could use the bevel configuration of shaft 32. If the driving shaft is turned in the same direction as shaft 22, then one could use the bevel configuration of shaft 22.

Therefor, regardless of the turbine driving shaft direction (which is chosen during the design process), the same desired output direction is achieved. Rusu does not need to teach of a bi-directional driving shaft, since the driving shaft is not bi-directional. Rusu teaches a unidirectional driving shaft, and a gearbox that provides the desired output direction.

With regard to Issue 2:

Rusu teaches a driving shaft, a gearbox assembly that drives the pump. Rusu does not teach of a specific gearbox configuration. Halliday teaches of a specific gearbox configuration (driving shafts 22/32, driving bevels 35/40 and driven bevel 36). The motivation to combine is to provide a specific transmission configuration that also saves on lateral spacing within the transmission housing. Rusu already teaches of a gearbox, and Halliday teaches of the specific gearbox.

With regard to Issue 3:

Halliday teaches a transmission that runs a propeller. More importantly, Halliday teaches of a gearbox. Regardless of the system the gearbox is incorporated in, a transmission is a transmission. Rusu teaches of a generic transmission within the proper environment, and to incorporate a known transmission from a different environment is proper.

With regard to Issue 4:

Applicant has not pointed out which limitations are not taught by the combination of Rusu or Halliday.

Since the unidirectional pump, gearbox, propeller, and driving shaft are all disclosed by applicant as prior art, and Rusu also teaches this, it appears that the issue of patentability lies in selecting a gearbox configuration based on the driving direction of the driving shaft. The act of “choosing a transmission to produce a desired output direction based on input direction” is not new in the art. Applicant’s arguments have been considered, but are not persuasive.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. The central facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

Art Unit: 3681

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on _____ (Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L. Pang whose telephone number is 571-272-7096. The examiner can normally be reached on 5:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'R. Pang', with a stylized flourish extending to the right.

Roger L Pang
Primary Examiner
Art Unit 3681

October 7, 2005